

REMARKS

Claims 1-19 are pending in this application. By this Amendment, claims 1 and 3 are amended to obviate informalities, and claims 17-19 are added.

Reconsideration of the application is respectfully requested.

The Examiner is respectfully requested to acknowledge consideration of the references listed on, and to return initialed copy of, the Form PTO-1449 filed with the September 13, 2005 Information Disclosure Statement.

Applicants thank Examiner Nguyen for the courtesy extended to Applicants' representative, Mr. Luo, during the January 26, 2006 personal interview. The substance of the personal interview is incorporated in the following remarks.

I. The Office Action rejects claims 1-3, 5-8 and 10-16 under 35 U.S.C. §103(a) over U.S. Patent No. 5,487,694 to Deming ("Deming") in view of U.S. Patent No. 4,633,848 to Bresciani ("Bresciani"); and rejects claims 4 and 9 under 35 U.S.C. §103(a) over Deming and Bresciani further in view of U.S. Statutory Invention Registration H244 to Goodwin ("Goodwin"). These rejections are respectfully traversed.

A. The Office Action acknowledges that Deming does not disclose or suggest a cutter having linear cut-off device, but asserts that Bresciani discloses such a feature. However, one of ordinary skill in the art would not have been motivated to combine Deming and Bresciani for at least three reasons, as discussed below.

Firstly, a combination of Deming and Bresciani, as asserted in the Office Action, would defeat Deming's principle of operation. In particular, as discussed during the personal interview, Deming's principle of operation includes the following two aspects:

1) Moving rotating abrasive means 12 on spindle means 11 in a plane perpendicular to an axis of rotation (see Fig. 1, col. 2, lines 17-19 and lines 33-45, and col. 4, lines 47-55), so that honeycomb structures of both round and non-round shapes may be produced (see col. 3, lines

14-19). Thus, Deming's principle of operation requires moving the spindle means 11, held in a single chuck, both further from or closer to a honeycomb structure 16.

2) Producing both round and non-round honeycomb structures cost effectively (col. 1, lines 59-61). The spindle means 11 has a simple structure, and may be easily moved in the plane perpendicular to the axis of rotation. Thus, using the simple-structured spindle means 11 satisfies the low-cost requirement of Deming's principle of operation.

In contrast, as discussed during the personal interview, Bresciani discloses a saw wire 9 that is controlled by a complex assembly of motor 15 and pulleys 10, 11 and 12. See Fig. 1, and col. 2, lines 32-37. It would be difficult, and therefore would not be cost effective, to move the assemble of saw wire 9, motor 15 and pulleys 10, 11 and 12 in the plane perpendicular to the axis of rotation. Furthermore, Bresciani requires a tie rod 8 for clamping, which is not applicable to a honeycomb structure. Also, as pointed out by Deming at col. 1, lines 49-52, sawing does not satisfy Deming's principle of operation, because sawing was used in the prior art only to produce round cross-section structures. Thus, combining Deming and Bresciani would be contrary to Deming's principle of operation.

Secondly, as discussed during the personal interview, Deming teaches away from using sawing in producing honeycomb structures. In particular, as discussed above, Deming indicates that sawing should not be used, because sawing only produces round cross-section structures. Also, Deming states that the use of band-sawing is disadvantageous. See col. 1, lines 46-49. The wire-sawing by the saw wire 9 disclosed in Bresciani appears to be similar to the band-sawing upon which Deming seeks to improve. Thus, Deming teaches away from Bresciani's wire saw 9.

Third, the Office Action fails to adequately establish a motivation for combining Deming and Bresciani. In particular, the Office Action asserts that Bresciani discloses certain advantages at col. 4, lines 11-20. However, as discussed during the personal interview, these

advantages are associated with the low rotation speed of the marble block. See col. 4, lines 15-16. These advantages are not tied to the use of saw wire 9. Thus, these advantages would not have motivated combining Bresciani's wire saw 9 with Deming's device.

In view of the above, one of ordinary skill in the art would not have been motivated to combine Deming and Bresciani.

B. The dependent claims are allowable at least for the dependence on an allowable based claim. In addition, Deming and Bresciani, even in combined, do not disclose or suggest rotating a crude honeycomb structure about a central axis thereof, causing the linear cutter of a bead saw to travel in a direction of the central axis, as recited in dependent claim 5. In particular, as discussed above, Deming does not disclose or suggest a linear cutter that travels in a direction of the central axis. Bresciani, on the other hand, discloses using a motor 15 to cause the saw wire 9 to move. See col. 2, lines 43-44. Bresciani does not disclose or suggest that the movement of the saw wire 9 is caused by the rotation of a crude honeycomb structure. Therefore, as discussed during the personal interview, Bresciani does not disclose or suggest the subject matter recited in claim 5.

For at least the above reasons, Deming and Bresciani, even if combined, do not disclose or suggest the subject matter recited in claim 5. Also, Goodwin does not supply the subject matter lacking in Deming and Bresciani.

C. In view of the above, withdrawal of the rejection of claims 1-16 under 35 U.S.C. §103(a) is respectfully requested

II. New claims 17-19 are patentable at least in view of the patentability of claim 1, from which they depend, as well as for additional features they recite. For example, one of ordinary skill would not have been motivated to combine Deming and Bresciani, as discussed above. Also, Deming and Bresciani, even if combined, do not disclose or suggest the subject matter recited in claims 17 and 18.

A. In particular, Deming and Bresciani, even if combined, do not disclose or suggest a cut-off device that rotates about an axis of the cut-off device in addition to moving in a linear direction, as recited in claim 17. As discussed above, Deming discloses rotating abrasive means 12 that rotates about the spindle means 11. Deming does not disclose or suggest that the rotating abrasive means 12 moves along the spindle means 11.

On the other hand, as discussed above, Bresciani discloses a saw wire 9 that moves along the train of the saw wire. Bresciani does not disclose or suggest that the saw wire rotates about an axis of the saw wire. Thus, even if combined, Deming and Bresciani do not disclose or suggest the subject matter recited in claim 17.

B. Also, Deming and Bresciani, even if combined, do not disclose or suggest a cutter that sags in a direction perpendicular to a direction of linear movement of the cut-off device while rotating about an axis of the cut-off device, as recited in claim 18. In particular, as discussed above, Deming discloses a device that has rotating abrasive means 12 mounted on spindle means 11. As is known, a spindle in such a device is a rigid element. The spindle does not sag in operation. Thus, Deming does not disclose or suggest a rotation of the rotating means 12 that is associated with sagging.

Bresciani discloses a device using an endless saw wire 9 that moves along the train of the saw wire. Bresciani does not disclose or suggest that the saw wire rotates about an axis in the direction in which the train extends. Thus, Bresciani does supply the subject matter lacking in Deming. Therefore, Deming and Bresciani do, even if combined, do not disclose or suggest the subject matter recited in claim 18.

III. In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-19 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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